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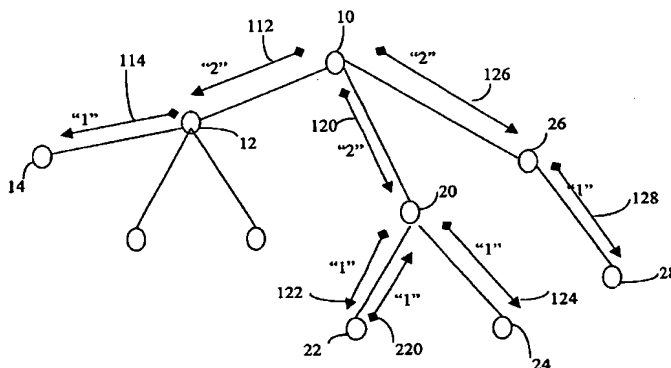
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(54) Title: METHOD AND APPARATUS FOR DISCOVERING COMPUTERS FOR STORING FRAGMENTS OF FILES IN A COMPUTER NETWORK



(57) Abstract: The discovery process comprises the device (10) generating messages (112, 120 126) which together have the purpose of identifying a predetermined number of devices which satisfy a test condition included in each message. These messages are sent respectively to the on-line devices (12, 20, 26) neighbouring device (10). To ensure that no more devices than necessary are identified by the messages, each message includes a variable which is referred to as a token bucket which indicates the number of devices to be discovered by the message. Additionally, each message includes a unique identifier. When a device (12, 20 26) receives a discovery message sent from another device, it determines if it satisfies the test condition and if so it sends an acceptance message to the originating device, decrements the token bucket in the message and forwards on any remaining tokens to another neighbour. The process stops once all tokens have been disposed of in this way. If a message reaches the end of a path without disposing of all of the tokens, the message is returned back up the path to try different paths until eventually all paths have been tried or a restriction criterion (eg maximum permitted number of hops) is met whereupon the message is returned back as a failed message to the originating device.

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# INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 G06F17/30

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G06F H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	SMITHSON A ET AL: "Engineering an agent-based peer-to-peer resource discovery system" AGENTS AND PEER-TO-PEER COMPUTING. FIRST INTERNATIONAL WORKSHOP, AP2PC 2002. REVISED AND INVITED PAPERS (LECTURE NOTES IN ARTIFICIAL INTELLIGENCE VOL.2530) SPRINGER-VERLAG BERLIN, GERMANY, 15 July 2002 (2002-07-15), pages 69-80, XP002302657 ISBN: 3-540-40538-0 the whole document ----- -/--	1-11

☒ Further documents are listed in the continuation of box C.

☐ Patent family members are listed in annex.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>ROBERTSON D, MCKEE P, HOILE C:            "Persistent, Reliable, Decentralised File System - DFS"            LCS2002 PROCEEDINGS, 'Online!            9 September 2002 (2002-09-09), pages 1-4,            XP002302658            LONDON            Retrieved from the Internet:            URL:http://www.ee.ucl.ac.uk/lcs/papers2002/LCS034.pdf&gt; 'retrieved on 2004-10-25!            cited in the application            the whole document</p>	1-11
A	<p>KRISHNA RAMANATHAN M ET AL: "Finding good peers in peer-to-peer networks"            PARALLEL AND DISTRIBUTED PROCESSING SYMPOSIUM., PROCEEDINGS INTERNATIONAL, IPDPS 2002, ABSTRACTS AND CD-ROM FT. LAUDERDALE, FL, USA 15-19 APRIL 2002, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, US, 15 April 2002 (2002-04-15), pages 232-239, XP010591039            ISBN: 0-7695-1573-8            the whole document</p>	1-11
A	<p>ROWSTRON A ET AL: "Storage management and caching in PAST, a large-scale, persistent peer-to-peer storage utility"            OPERATING SYSTEMS REVIEW ACM USA, vol. 35, no. 5, 21 October 2001 (2001-10-21), pages 188-201, XP002302659            ISSN: 0163-5980            the whole document</p>	1-11
A	<p>WEATHERSPOON H, WELLS C, EATON P R, ZHAO B Y, KUBIATOWICZ J D: "Silverback: A global-scale archival system"            INTERNET, 'Online! March 2001 (2001-03), pages 0-15, XP002302722            BERKELEY, CALIFORNIA            Retrieved from the Internet:            URL:http://sunsite.berkeley.edu/Dienst/Repository/2.0/Body/ncstr1.ucb/CSD-01-1139/pdf&gt; 'retrieved on 2004-10-27!            abstract;            sections 3.1, 3.3., 4.3, 4.3.1</p>	1-11